

IN THE CLAIMS:

Please cancel Claims 3, 5, 10, 13, and 15, without prejudice to or disclaimer of the subject matter recited therein. Please amend Claim 1, 2, 4, 7, and 11, as follows.

1. (Currently Amended) An optical waveguide apparatus comprising:
a sheet-shaped optical waveguide capable of propagating light in two-dimensional directions;
a light emitting unit for emitting a light beam to said waveguide,
a light transmitting unit for transmitting light through said waveguide;
[[a]] light receiving unit units for receiving light transmitted propagating in
through said waveguide; and
a light diffusing structure for diffusing the light beam from said light emitting
unit; and
a region having said light receiving units,
~~relaying means for relaying light transmitted from said light transmitting unit~~
~~and propagating in said waveguide at a place between said light transmitting unit and said light~~
~~receiving unit to transmit the relayed light to said light receiving unit;~~
wherein said ~~relaying means includes a~~ light diffusing structure is located
closer to the light receiving units than said emitting unit in said region, comprised of a plurality
of protrusions in said waveguide
wherein the light beam emitted by said light emitting unit propagates to said
light diffusing structure, the light beam is diffused in said region by said light diffusing structure,
and said receiving units receive the light diffused by said light diffusing structure, and

wherein said light emitting unit, at least one of said light receiving units and said light diffusing structure are not located on a straight line extending along said sheet-shaped optical waveguide.

2. (Currently Amended) The optical waveguide apparatus according to claim 1, wherein said ~~relaying means~~ light diffusing structure is constructed such that a propagation condition of light propagating in said waveguide can be changed at a place on a light propagation path between said light ~~transmitting~~ emitting unit and said at least one of said light receiving unit units in a relaying manner.

3. (Canceled)

4. (Currently Amended) The optical waveguide apparatus according to claim ~~[[3]]~~ 1, wherein said structure has a thickness less than a thickness of a core layer of said waveguide.

5. (Canceled)

6. (Canceled)

7. (Currently Amended) The optical waveguide apparatus according to claim 1, wherein said ~~relaying means~~ light diffusing structure includes a structure capable of

changing a propagation condition of light propagating in said waveguide without processing light in a regenerative manner by amplification and shaping.

8. (Canceled)

9. (Previously Presented) The optical waveguide apparatus according to claim 1, wherein said waveguide has a structure in which a sheet-shaped core layer is sandwiched by a first cladding layer and a second cladding layer.

10. (Canceled)

11. (Currently Amended) The optical waveguide apparatus according to claim 10, further comprising an optical-path converting structure for converting at least one light beam emitted from said light emitting ~~device~~ unit into at least one light beam propagating in at least one predetermined direction, said optical-path converting structure being arranged in a portion of said waveguide below said light emitting ~~device~~ unit.

12. (Original) The optical waveguide apparatus according to claim 11, wherein said optical-path converting structure has a spherical, hemispherical, conical, wedge-shaped, or polygonal pyramid-shaped structure.

13-15. (Canceled)